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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* HONGJIE CAO,  
GARY T. MARTINO, and PAUL H. RICHARDSON

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Appeal 2008-0456  
Application 09/932,435  
Technology Center 1600

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Decided: April 11, 2008

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Before LORA M. GREEN, RICHARD M. LEOVITZ, and  
MELANIE L. McCOLLUM, *Administrative Patent Judges*.

McCOLLUM, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a hair cosmetic. The Examiner has rejected the claims as anticipated or obvious. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

Claims 1, 4, 6-11, 13, 14, 16-18, 20, 23-26, and 28 are pending and on appeal. As indicated in the Patent Office communication mailed October 12,

2007, claims 12, 21, 22, and 27 were cancelled by the Examiner based on Appellants' failure to respond to the new ground of rejection applied to those claims in the Examiner's Answer.

Claims 1, 4, 6-11, 18, and 24-26 stand rejected under 35 U.S.C. § 102(b) as anticipated by Kousei (JP 11-236310, published Aug. 31, 1999).

Claims 13, 14, 16, 17, 20, 23, and 28 stand rejected under 35 U.S.C. § 103(a) as obvious over Kousei in view of Bhatt (US 6,113,881, issued Sep. 5, 2000).<sup>1</sup>

Other than claims 25 and 26, the claims subject to each rejection have not been argued separately and therefore stand or fall together. 37 C.F.R. § 41.37(c)(1)(vii). We will focus on claims 1, 13, 25, and 26, which read as follows:

1. A hair cosmetic composition comprising a fixative effective amount of xanthan gum, wherein the composition has a high humidity curl retention of at least about 80% for two hours at 90% relative humidity, and wherein the xanthan gum has been heat treated at a moisture content of less than about 8%, a temperature of at least about 100°C for at least about 30 minutes, wherein the cosmetic composition is a hair fixative composition.

13. The composition of claim 1, further comprising a second fixative polymer.

25. [A hair cosmetic composition, wherein the fixative consists essentially of a xanthan gum and the high humidity curl retention is at least about 80% after two hours at 90% relative humidity, wherein the xanthan gum has been heat treated at a moisture content of less than about 8%, a temperature of at least about 100°C for at least about

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<sup>1</sup> Claims 21 and 22 were also rejected on this basis. However, as discussed above, claims 21 and 22 have been cancelled.

30 minutes, wherein the composition is a hair fixative composition, and] wherein the composition is selected from the group consisting of a spray, a mousse, a hair lotion, a cream, a pomade, and a gel.

26. The composition of claim 25, wherein the composition is a gel.

Appellants contend that the Examiner erred in concluding that claims 1, 4, 6-11, 18, and 24-26 are anticipated by Kousei (Br. 4-6) and in concluding that claims 13, 14, 16, 17, 20, 23, and 28 would have been obvious over Kousei in view of Bhatt (Br. 9-11).

#### ISSUES

The issues are whether Appellants have shown that the Examiner erred in concluding that claims 1, 4, 6-11, 18, and 24-26 are anticipated by Kousei and in concluding that claims 13, 14, 16, 17, 20, 23, and 28 would have been obvious over Kousei in view of Bhatt.

#### ANTICIPATION

The Examiner rejects claims 1, 4, 6-11, 18, and 24-26 under 35 U.S.C. § 102(b) as anticipated by Kousei (Ans. 3). The Examiner finds that Kousei “discloses a composition containing heat-treated xanthan gum,” which “may be in various forms including a cream or gel” (*id.* at 4). The Examiner also finds that Kousei discloses that “heating the gum 100°C and above increases viscosity, [that] the gum should not be heated above 140°C to avoid discoloration of the gum,” and that, therefore, “the temperature should be with[in] the range of 100°-140°C” (*id.*). Specifically, the Examiner finds that Kousei, in Reference Example 2, “discloses an aqueous solution of the high molecular weight xanthan gum (heat treated at 115 degrees Celsius for 3 hours under a vacuum) in a weight percent of 0.5, 1, 1.5, and 2

respectively” (*id.*). The Examiner states that “xanthan gum is a known ‘gelling agent’ that is used to thicken compositions; thus the water and xanthan gum form a gel” (*id.*).

The Examiner also finds that, “although [Kousei] does not explicitly specify the moisture content of less than 8% . . . [, Kousei]’s xanthan gum disclosed especially the xanthan gum disclosed in reference example 2 inherently has the instant moisture content” (*id.* at 5). The Examiner “bases this position on that fact that [Kousei]’s xanthan gum is heat[] treated at 115 degrees Celsius for 3 hours and[, in claim 9,] applicant claims a heat treatment of 105°Celsius for at least 2.5 hours has a moisture content of less than 1%” (*id.*). The Examiner also finds that Stauffer (EP 0 321 216 A2, published Jun. 21, 1989) “further substantiates the examiner’s position that using air, especially hot air, does not add moisture” (*id.* at 12). Specifically, the Examiner finds that “example 9 disclosed in [Stauffer] utilizes vacuum drying wherein the moisture content is reduced to 0.5% (see page 9, line 12). Thus, clearly the use of air does not necessarily add moisture.” (*Id.*)

With regard to “a fixative effective amount” as recited in claim 1, the Examiner finds that “the instant specification . . . states that the xanthan gum is utilized in the amount of 0.01-20% and preferably 0.01-less than 2% and [Kousei] teaches a range of 0.01-2%” in its composition (*id.* at 5). “With regard to the preamble, the examiner[] points out that ‘hair composition’ does not hold patentable weight unless it denotes a structural limitation and [in the] instant case it does not” (*id.*). The Examiner also finds that Reference Example 2 “must inherently meet the recitation ‘wherein the composition has a high humidity curl retention of at least about 80% for two

hours at 90% relative humidity’ since [Kousei] utilizes the same xanthan gum as [in the] instant invention and in the same amount” (*id.*).

*Findings of Fact*

1. The Specification describes “the use of xanthan gum, particularly heat treated xanthan gum, as a fixative in hair cosmetic compositions” (Spec. 2).
2. The Specification states that “[x]anthan gum is advantageous in that it . . . provides . . . high humidity curl retention” (*id.*).
3. The Specification also states that “[x]anthan gum may be formulated into hair cosmetic compositions at any level which provides the desired properties” and that, typically, “heat treated xanthan gum will be used in an amount of at least about 0.01%, particularly at least about 0.5%, more particularly at least about 0.75% and less than about 20%, particularly less than about 2%, more particularly less than about 1.5%” (*id.* at 7-8).
4. In addition, the Specification states that “[h]eat treatment of xanthan gum is typically done . . . at a temperature of at least about 60°C, more particularly at least 100°C, and most particularly at least about 105°C for a period of time of about 30 minutes, particularly at least one hour, more particularly at least 2.5 hours” (*id.* at 3).
5. In Example 1, the Specification describes xanthan gum that was heat-treated in a fluid bed reactor at 235°F (about 113°C) for 60 minutes (*id.* at 9).
6. Kousei describes a cosmetic containing a xanthan gum having a specific high apparent weight average molecular weight and having “excellent stability over time and a good use feel” (Kousei 3<sup>2</sup>).

<sup>2</sup> The citations are to the translation of record.

7. Kousei discloses that this high molecular weight xanthan gum can generally be obtained by heating xanthan gum having a drying decrease of 50 wt% or less at 100-140°C for 30 minutes or more (*id.* at 4-5).

8. As the raw material xanthan gum, Kousei describes using commercial powdered or granulated xanthan gum (*id.* at 5).

9. Kousei discloses that the cosmetic preferably contains 0.01-2 wt%, especially 0.05-1 wt%, of the high molecular weight xanthan gum (*id.* at 6).

10. Kousei states that the high molecular weight xanthan gum shows a high viscosity even in small quantities (*id.*).

11. Kousei also discloses that the cosmetic may contain various components, including water-soluble polymers, film-forming agents, and resins, in amounts that do not hinder the efficacy of the invention (*id.* at 7).

12. In addition, Kousei discloses that the cosmetics include make-up cosmetics, skin cosmetics, and hair cosmetics (*id.* at 11).

13. Kousei also discloses that the cosmetics may be in various forms, including gels (*id.*).

14. In Reference Example 1, Kousei describes heating xanthan gum powder having a drying decrease of 12 wt% at 115°C for 3 hours under vacuum (air, 60 mmHg) to form a high molecular weight xanthan gum (*id.* at 12).

15. In Reference Example 2, Kousei describes preparing 0.5, 1.0, 1.5, and 2.0% aqueous solutions of the high molecular weight xanthan gum formed in Reference Example 1 (*id.*).

16. Stauffer describes enhancing the viscosity profile of xanthan by milling it into a powder at approximately 8 to 15% moisture, thermal drying, and re-exposing it to atmospheric conditions until approximately 8 to 15% moisture is regained (Stauffer 2).

17. Stauffer states that “[a]ll examples were dried to [a] moisture content of 6.9 ~ 00%” (*id.*)

18. In Examples 8 and 9, Stauffer describes drying samples to 0.5% w/w moisture overnight in a Labconco Freeze Dryer. Stauffer states that a “set of data was generated without prior freezing so that only vacuum drying conditions prevailed.” (*Id.* at 8.)

#### *Analysis*

Based on our findings and those of the Examiner, we conclude that the Examiner has set forth a prima facie case that Kousei, specifically Reference Example 2 thereof, anticipates claim 1.

Appellants argue, however, that “Kousei does not teach or suggest heat treating xanthan gum to a moisture content of less than about 8%” (Br. 6). In particular, Appellants argue that, “[w]ith reference to Example 2 of Kousei, the xanthan gum therein is heat treated in air. It is well known that air contains moisture; therefore, one skilled in the art would NOT expect the xanthan gum of Example 2 of Kousei to have a moisture content of less than 8 %.” (*Id.* at 5.)

We are not persuaded by this argument. Kousei’s Reference Example 2 compositions were formed using the xanthan gum formed in Reference Example 1 (Finding of Fact (FF) 15). In Reference Example 1, Kousei describes heating xanthan gum powder having a drying decrease of



12 wt% at 115°C for 3 hours under vacuum (air, 60 mmHg) to form a high molecular weight xanthan gum (FF 14). The temperature and time of this heat-treatment are within the ranges recited in the Specification (FF 4) and are higher than the time and temperature utilized in, for example, Example 1 of the Specification (FF 5). Although Kousei describes heating under vacuum, whereas Specification Example 1 describes heating in a fluid bed reactor (FF 5), vacuum drying is known to be useful in drying xanthan gum to a moisture content less than 8% (FF 16-18). Thus, we agree that the Examiner has set forth a prima facie case (*see* Ans. 5, 12) that the heat-treatment described in Kousei would provide xanthan gum having a moisture content of less than about 8%.

Although the xanthan gum in Kousei's Reference Example 2 was heat treated in air, Appellants have not provided any evidence to rebut the Examiner's prima facie case that Kousei's heat-treatment would result in a moisture content of less than about 8%. "Attorney's argument in a brief cannot take the place of evidence." *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974). Therefore, we are not persuaded by this argument.

Appellants also argue that "Kousei does not teach the use of xanthan gum as a hair fixative" (Br. 6). In addition, Appellants argue that "nowhere does Kousei teach or suggest that its xanthan gum will provide high humidity curl retention of at least about 80% for two hours at 90% relative humidity (a hair fixing property)" (*id.*).

We are not persuaded by these arguments. We agree that the Examiner has set forth a prima facie case that these properties are inherent in the compositions described in Kousei, specifically in Reference Example 2

(Ans. 5).<sup>3</sup> “The discovery of a new property or use of a previously known composition, even when that property and use are unobvious from the prior art, can not impart patentability to claims to the known composition.” *In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990).

We conclude that the Examiner has set forth a prima facie case that claim 1 is anticipated by Kousei, which Appellants have not rebutted. We therefore affirm the rejection of claim 1 under 35 U.S.C. § 102(b). Claims 4, 6-11, 18, and 24 fall with claim 1.

With regard to claims 25 and 26, Appellants additionally argue that “nowhere does Kousei teach or suggest the specifically claimed hair fixatives” (Br. 6). We are not persuaded by this argument. First, Kousei does describe a gel (FF 13), which is one of the composition forms recited in claim 25 and is the composition form recited in claim 26. Secondly, Appellants do not dispute the Examiner’s finding that “water and xanthan gum form a gel” (Ans. 4). Thus, we conclude that Appellants have not rebutted the Examiner’s prima facie case that claims 25 and 26 are anticipated by Kousei. We therefore affirm the rejection of claims 25 and 26 under 35 U.S.C. § 102(b).

#### OBVIOUSNESS

The Examiner rejects claims 13, 14, 16, 17, 20, 23, and 28 under 35 U.S.C. § 103(a) as obvious over Kousei in view of Bhatt (Ans. 5). The Examiner relies on Kousei for the features of claim 1 (*id.* at 6). The Examiner also relies on Kousei for teaching the use of xanthan gum in hair

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<sup>3</sup> In the Evidence Appendix, Appellants provide a copy of a Rule 132 Declaration. Appellants do not traverse the rejection based on this Declaration.

cosmetics and “the use of other film-forming polymers” (*id.*). The Examiner relies on Bhatt for teaching a hair styling composition containing a polyurethane hair resin and for teaching that the polyurethane resin “provide[s] styling/holding capacity and stiffness” (*id.* at 6-7).

The Examiner concludes that “it would have been prima facie obvious to utilize a secondary fixative polymer in [Kousei]’s composition for its additive effect and to provide a composition with increased holding capacity” (*id.* at 7). In addition, the Examiner concludes that a “skilled artisan would have reasonably expected success in the combination since Kousei teaches the heat-treated xanthan gum may be combined with other resins and polymers and Bhatt also teaches the polyurethane resin may be mixed with another fixative polymer” (*id.* at 17).

#### *Findings of Fact*

19. Bhatt describes “hair styling mousse compositions containing (a) a hydrophilic, carboxylated polyurethane resin, (b) an optional second hair fixative resin, and (c) a carrier comprising water” (Bhatt, col. 4, ll. 26-30).

20. Bhatt states that the “optional second hair fixative resin is a traditional hair setting resin, such as a vinyl or acrylic resin” (*id.* at col. 4, ll. 31-33).

21. Bhatt also states that the compositions “provide superior hairstyle retention, even at a high relative humidity” (*id.* at col. 4, ll. 39-40).

22. In addition, Bhatt discloses that the carboxylated polyurethane resin provides benefits including low viscosity (*id.* at col. 13, ll. 10-15).

#### *Analysis*

Claim 13 depends from claim 1. Claim 13 additionally requires that the composition further comprise a second fixative polymer.

For the reasons discussed above, we agree that the Examiner has set forth a prima facie case that Kousei anticipates the composition of claim 1, which Appellants have not rebutted. In addition, Kousei discloses that the composition may be a hair cosmetic (FF 12) and that it may contain other components such as film-forming agents (FF 11). Bhatt discloses including a fixative polymer in a hair cosmetic (FF 19-22). We agree that it would have been prima facie obvious to include Bhatt's fixative polymer in Kousei's hair cosmetic composition to provide hairstyle retention (*see* Ans. 7).

Appellants argue, however, that

considering the Bhatt reference as a whole, one skilled in the art would understand that enhanced viscosity is an undesirable effect. . . . Therefore, one skilled in the art considering the Kousei reference as a whole and its objective of providing a cosmetic with improved thickening and stability, would not be motivated to look to Bhatt for a second polymer to include in its cosmetics, as Kousei states that only those ingredients can be added to its formulation that do not hinder the efficacy of its invention.

(Br. 10.)

We are not persuaded by this argument. Kousei describes a hair cosmetic containing heat-treated xanthan gum and that the xanthan gum provides high viscosity (FF 6-12). In addition, Bhatt states that one of the benefits of the carboxylated polyurethane resin is that it provides low viscosity (FF 22). However, Appellants have not shown that one of ordinary skill in the art would have expected Bhatt's carboxylated polyurethane resin

to interfere with the high viscosity properties provided by the xanthan gum. To the contrary, Bhatt explicitly suggests the addition of a second hair fixative to its compositions (FF 20). Therefore, we do not agree with Appellants that one of ordinary skill in the art would not have been motivated to look to Bhatt for a fixative polymer.

We conclude that the Examiner has set forth a prima facie case that claim 13 would have been obvious over Kousei in view of Bhatt, which Appellants have not rebutted. We therefore affirm the rejection of claim 13 under 35 U.S.C. § 103(a). Claims 14, 16, 17, 20, 23, and 28 fall with claim 13.

#### CONCLUSION

The Examiner's position is supported by the preponderance of the evidence of record. We therefore affirm the rejection of claims 1, 4, 6-11, 18, and 24-26 under 35 U.S.C. § 102(b) and the rejection of claims 13, 14, 16, 17, 20, 23, and 28 under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

APJ initials:

Appeal 2008-0456  
Application 09/932,435

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